

Prediabetes

Prediabetes is a serious condition in which individuals have blood glucose or A1c levels higher than normal but not high enough to be classified as diabetes. People with prediabetes have an increased risk of developing type 2 diabetes, heart disease, and stroke. Almost everyone who develops type 2 diabetes had prediabetes first.

Doctors may also refer to prediabetes as Impaired Glucose Tolerance (IGT) or Impaired Fasting Glucose (IFG) because it is a state of elevated blood glucose levels.

However, if persons with prediabetes lose weight and increase physical activity, they may be able to delay or prevent type 2 diabetes and can return their blood glucose levels to normal.

Based on fasting glucose or A1c levels, the Centers for Disease Control and Prevention (CDC) report that from 2005 to 2008 35% of U.S. adults aged 20 years or older had prediabetes (50% of those aged 65 years or older). Applying this percentage to the entire U.S. population in 2010 yields an estimated 79 million Americans aged 20 years or older with prediabetes, or an estimated 2,145,074 Virginians 18 and older.

Based on the results of the 2010 Behavioral Risk Factor Surveillance System (BRFSS), 4.9% of adult Virginians had ever been told by a doctor that they had prediabetes. However, because a fasting glucose test is not part of a standard office visit, an additional 30% of adult Virginians may have *undiagnosed* prediabetes, based on the national estimate from the CDC.

Diabetes risk factors, preventive practices, and associated risks by diabetes status, Virginia

	Diagnosed Diabetes	Diagnosed Prediabetes	No diabetes
<u>Risk factors</u>			
High cholesterol ¹	65%	62%	32%
High blood pressure ¹	67%	56%	23%
Overweight/obese	86%	79%	58%
Current smoking	11%	21%	19%
Physical inactivity	39%	30%	21%
<u>Preventive practices</u>			
Aspirin therapy (daily) ²	58%	48%	22%
Dental exams (yearly)	71%	75%	79%
Influenza vaccine	63%	64%	48%
<u>Associated risks</u>			
Cardiovascular disease	26%	14%	5%
Disability	38%	34%	17%
Anxiety disorder ³	11%	15%	11%
Depressive disorder ³	22%	18%	15%
>15 unhealthy days/ month	28%	25%	15%

Source: Behavioral Risk Factor Surveillance System (BRFSS), 2005-2010.

Data notes: Percents are weighted based on demographic and household characteristics. All data are from 2010 unless otherwise noted. Only 4.9% of adult Virginians have *diagnosed* prediabetes; an additional 30% may have undiagnosed prediabetes. For this reason, data should be interpreted cautiously.

¹ BRFSS 2009

² BRFSS 2005

³ BRFSS 2006

- Adults with prediabetes are more likely to have high cholesterol and high blood pressure than persons without diabetes. They are also more likely to be overweight or obese, smoke cigarettes, and be physically inactive than persons without diabetes.
- For most risk factors, prevalence is highest among persons with diabetes, slightly lower among persons with prediabetes, and lowest among those without diabetes. However, 11% of persons with diabetes are current smokers, versus 21% of those with prediabetes.
- Adults with diabetes and prediabetes are more likely to report cardiovascular disease, disability, depressive disorders, and having more than 15 unhealthy days per month than those without diabetes.
- Persons with prediabetes are more likely to report an anxiety disorder than either those with or without diabetes.

Sources: BRFSS 2005-2010; CDC: [Prediabetes](#); www.cdc.gov/diabetes; CDC's National Diabetes Fact Sheet, 2011; American Diabetes Association: [Prediabetes](#); www.diabetes.org.

Preventing Type 2 Diabetes

Before developing type 2 diabetes, people almost always have prediabetes.

The Diabetes Prevention Program (DPP) is a 27-center randomized clinical trial that studied more than 3,200 adults who were 25 years or older and who were at increased risk of developing type 2 diabetes.

The DPP evaluated the effectiveness of the following ways to prevent or delay type 2 diabetes:

- intensive lifestyle modification (healthy diet, moderate physical activity of 30 minutes a day 5 days a week),
- standard care plus the drug metformin, and
- standard care plus placebo (a pill that has no effect).

Findings of the DPP:

- This is the first major clinical trial of Americans at high risk for type 2 diabetes to show that lifestyle changes in diet and exercise and losing weight can prevent or delay the disease.
- Participants who made lifestyle changes reduced their risk of getting type 2 diabetes by 58%.
- The lifestyle intervention was effective for participants of all ages and all ethnic groups.
- Participants with standard care plus metformin reduced risk for getting type 2 diabetes by 31%.

With modest lifestyle interventions, type 2 diabetes is **preventable**. Healthier eating, increased activity, and modest weight loss can prevent or delay type 2 diabetes.

All forms of diabetes are **controllable** with routine diabetes management practices, and healthy diet and exercise.

Sources: CDC: <http://www.cdc.gov/diabetes/news/docs/dpp.htm>;

Knowler WC, Barrett-Connor E, Fowler SE, et al. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *N Engl J Med* 2002 Feb 7;346(6):393-403.